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WITH ABSTRACT**

Method for the Provision of Operator-Specific Performance Features of Different Mobile Radio Network Operators for a Mobile Radio Customer

The invention relates to a method for the provision of operator-specific performance features of different mobile radio network operators for a mobile radio customer, according to the preamble of claim 1.

By way of the so-called national and international roaming, customers of modern mobile radio networks, such as GSM and UMTS, are able to use, in other countries and with other network operators, services of the respective "foreign" mobile radio network. However, in the case of the roaming, the performance features a customer can use in the foreign network are limited to the performance features that have been activated in the home network. This is caused by the fact that during the roaming, the performance features that are activated for the mobile radio customer are queried from the so-called home location register of the home network and the performance features in the foreign network are made available to the customer based on these authorizations.

As a result it is not possible to use additional performance features in the foreign network that are not available in the home network, and which are therefore also not activated for the customer.

An additional shortcoming of the roaming is that a mobile radio customer is reachable in the foreign network only at his international mobile number of the home network. As a result, a caller in the country of the foreign network needs to always use the international home-location number of the mobile radio customer, even though the mobile radio customer is staying in the same country. Additionally, the caller is billed fees for international calls, even though the mobile radio customer is located in the same country.

It is an object of the invention to provide a method whereby performance features in a foreign network can be put at a mobile radio customer's disposal that are not available in his home network. It is an additional object of the invention to provide a method whereby mobile radio customers are reachable in foreign networks at national phone numbers and therefore no international calling fees result for callers within the foreign network.

These objects are met according to the invention with the characteristics of claim 1.

The inventive method provides for a separate subscriber relationship to be created for each desired mobile radio network, i.e., a separate subscription of the mobile radio customer's. In this manner the mobile radio customer receives in each desired mobile radio network a separate network-specific identification (mobile phone number). This is achieved in such a way that on a Smart Card of the mobile radio customer, a separate SIM (Subscriber Identity Module) application or USIM (UMTS Subscriber Identity Module) application is applied. The customer thus has only one Smart Card with multiple logical, network-specific SIMs. In accordance with the network-specific SIMs, a separate subscriber profile in the HLR (Home Location Register) must be provided for the mobile radio customer in each network. Since this makes the mobile radio customer individually administratable in each network, specific performance features can be administered for the customer in each mobile radio network. By means of this measure, different authorizations can be provided for a customer depending on the network being used at a given time.

A mobile radio customer therefore has, in network A, an identification (phone number) A, and as a result authorizations (performance features) A specific to network A. For network B, the customer has the identification B and the authorizations B, etc.

In an improvement of the method, provision is made by the invention that the active identification (phone number) of the mobile radio customer, which is either manually selected by the mobile radio customer or automatically activated in dependence upon the current location of the mobile radio customer, is always the one that corresponds to the mobile radio network being used. The active identification (phone number) is always that of the currently used network. This may be achieved, e.g., by means of automatic algorithms on the given Smart Card that start the currently required SIM application. This measure ensures that the authorizations being applied are always those of the currently used network.

If the customer is located within network A, the identification of network A is active, and therefore the authorizations of network A. In network B, the identification of network B is active with the authorizations B, etc.

In a further development of the invention, provision is made through network-based solutions to compile the individual network-specific phone numbers of the mobile radio customer's in such a way that the mobile radio customer can be reached at each network-specific phone number at all times. This means that the mobile radio customer is reachable, regardless of his current location and thus regardless of the active identification (phone number), at any of the identifications (phone numbers) provided for him. This method of operation is achieved by intelligent control of call redirections in the respective networks. The call redirections of all involved networks, except for the network of the current location of the mobile radio customer, always point to the currently active identification (phone number) of the mobile radio customer. The call redirections must be newly set accordingly with each change of the customer's identification. This renewed programming of the call redirection shall be provided for automatically by means of corresponding intelligent technologies, e.g., in an IN node.

If the mobile radio customer is located within network A and his identification (phone number) for network A is therefore active, the customer can nevertheless be reached at his identification (phone number) for network B. For this purpose the call redirections must be set in network B to

the identification (phone number) A. If the customer changes from network A to network B, the call redirections of both networks A and B must be changed.

In an additional improvement of the invention, provision is made with respect to the calling line identification presentation (CLIP) function of the mobile radio customer that, in dependence upon the phone number dialed by the mobile radio customer, a corresponding identification of the mobile radio customer is transmitted to the subscriber being called. This ensures that in each network or country the same phone number of the mobile radio customer is always displayed regardless of the currently active identification/phone number of the customer. An implementation of this function may take place in intelligent network nodes, e.g., in an IN node.

The mobile radio customer is located within network B and his identification B is therefore active. If the mobile radio customer calls a subscriber in network A, the identification A of the mobile radio customer is transmitted by means of CLIP to the subscriber being called, even though the mobile radio customer currently has identification B activated.

An additional embodiment of the invention permits the mobile radio customer to be assigned one and always the same mobile box. In which network the mobile box is established and used is of no importance. However, the mobile box is preferably established in the mobile radio customer's home network. In order for each caller to reach the mobile radio customer's mobile box regardless of his current location and current identification, the call redirections must be set in the network of the current location of the mobile radio customer to the mobile box. When the mobile radio customer's identification changes, the call redirections must be automatically reprogrammed by means of intelligent functions.

The mobile radio customer is located in network B and his identification B is active. The call redirections in network B point to the mobile box of the mobile radio customer. A caller from network A dials the identification A of the mobile radio customer. By means of the call redirections in network A the call is forwarded to network B. In network B the call redirection operations point

to the mobile box. If the customer changes from network B to network A, the call redirections in network A must be changed to the mobile box.

Additional characteristics of the invention will become apparent from the figures in the drawing.

Figure 1 shows a schematic illustration of a mobile radio end unit 1 that is operated with a Smart Card 2.

Figure 2 illustrates that on the Smart Card 2 at least two subscriber relationships 3 and 4 are defined. One subscriber relationship for a mobile radio network A and one subscriber relationship for a mobile radio network B.

Shown in Figure 3 are two mobile radio networks 5 and 6 (A and B), each of which comprises a home location register (HLR) 7 and 8. The subscriber has assigned to him in each mobile radio network his own subscriber relationship, whose subscriber profile is stored in the given HLR 7 or 8. However, the subscriber has only one single mobile box 9, which is arranged, for example, in the mobile radio network A and can be addressed via both mobile radio networks.